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**LETTER REPORT  
FOR  
CLARK OIL REFINERY  
BLUE ISLAND, COOK COUNTY, ILLINOIS  
TDD: SO5-9802-018  
PAN: 8F1801PIXX**

**April 3, 1998**

**Prepared for:**

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Emergency and Enforcement Response Branch  
77 West Jackson Boulevard  
Chicago, Illinois 60604**

Prepared by: Karen Kirchner Date: 4-3-98  
Karen Kirchner, START Project Manager

Reviewed by: Mary J. Ripp Date: 4-3-98  
Mary Jane Ripp, START Assistant Program Manager

Approved by: Thomas Kouris Date: 4/3/98  
Thomas Kouris, START Program Manager



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## ecology and environment, inc.

International Specialists in the Environment

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April 3, 1998

Gail Nabasny  
Emergency Support Section  
United States Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Re: Clark Oil Refinery - Blue Island  
Blue Island, Cook County, Illinois  
TDD: S05-9802-018  
PAN: 8F1801PIXX

Dear Ms. Nabasny:

The United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) under Technical Direction Document (TDD) S05-9802-018, to perform a Spill Prevention, Control, and Countermeasure (SPCC) followup inspection at the Clark Oil Refinery. The inspection was conducted on February 27, 1998.

On March 5 and 6, 1997, an SPCC inspection was conducted at the Clark Oil Refinery in Blue Island as part of a multi-media inspection by U.S. EPA. Personnel who conducted the inspection were U.S. EPA On-Scene Coordinator Len Zintak and START members Stephanie Wenning and Karen Kirchner. Several SPCC deficiencies were documented during this inspection and submitted to U.S. EPA as part of the SPCC Inspection Report dated June 4, 1997.

Dr. Barbara Carr, Region 5 SPCC Coordinator, performed an announced site visit at Clark Oil Refinery on February 19, 1998, to review the facility's SPCC Plan. START was tasked to perform a followup site inspection of the facility to determine whether plan and site implementations specified in the Clark Oil Refinery's January 1997 SPCC Plan were implemented. On February 26, 1998, START member Kirchner met with Dr. Carr to review items which were to be specifically inspected at the facility. In addition, START Kirchner was to identify any changes that have occurred at the facility since the March 1997 inspection.

On February 27, 1998, at 0900 hours, START Kirchner arrived at the Clark Oil Refinery unannounced and asked to see Mr. Gerry Kennett, Environmental Manager and Health and Safety Manager. After explaining to Mr. Kennett that she wished to perform an SPCC site inspection, Mr. Kennett stated that he was very busy and had not heard of an "SPCC Plan". Mr. Kennett then summoned his contractor, Kevin Huval with Nodier-Obluda Engineering Services, Inc. While awaiting Mr. Huval's arrival in the reception area, Mr. Kennett asked START Kirchner where she had received his name. START Kirchner explained that Mr. Kennett's name was listed as the "Person Responsible for Spill Prevention" at the facility in the SPCC Plan dated October 1997, which was given to Dr. Carr on February 19, 1998. Mr. Kennett was unaware of the fact that his name was listed in the plan. START Kirchner showed Mr. Kennett a copy of the plan which had been given to Dr. Carr. At this time, Mr. Huval arrived in the reception area. Mr. Kennett began reading

through the plan and stated that he believed the plan was in a draft stage and had not yet been approved. When START Kirchner asked Mr. Kennett if the October 1997 plan was the facility's current SPCC Plan, Mr. Kennett refused comment stating that he wished to discuss it with the facility's lawyer because if the October 1997 plan was not the current SPCC Plan, then the facility was out of compliance because the plan was due for review in September 1997. On the other hand, if the October 1997 plan was the current SPCC Plan, then the facility was out of compliance because the plan was not certified or approved by management. As Mr. Kennett looked through the October 1997 plan, START Kirchner asked the following questions:

- Is water still being pumped from the 1B outfall to the Tank 55 dike as stated on page 2-10 of the plan? Mr. Kennett stated that the water is now pumped directly into Tank 45.
- According to the plan, on page 2-24, "Tanks without adequate secondary containment area included Tanks 16, 17, 18, 36, 40, 41, 42, 51, 52, 55, 71, 72, 77, 78, 322, 323, and 801." ... "A study was conducted to determine the requirements for adjusting dike walls...Clark plans to implement these dike wall modifications." When START Kirchner asked Mr. Kennett the status of this implementation, Mr. Kennett stated he would have to check. Later, Mr. Huval stated that the work proposals were in the Contracts Department to be put out for bid, but was unable to provide when the bidding and work might commence.
- On page 2-28 of the plan, it is stated "The imperviousness of containment structures is unknown,...". Mr. Kennett stated that no permeability testing has been conducted.
- The plan states on page 2-39 that "The capacity of the sump will be evaluated and the containment modified, if required,..." Mr. Kennett was not aware of any evaluation but would check with his staff. At the closeout meeting with Mr. Kennett, he stated that no evaluation of the sump has been conducted.
- According to the plan on page 2-40, "warning signs are posted at the racks to warn drivers not to depart before all transfer lines are disconnected." Mr. Kennett was not sure if signs were posted or not posted. During the site inspection, it was noted that signs are not posted at the light or heavy oil loading racks.

After going through the plan, Mr. Kennett had Mr. Huval accompany START Kirchner on the site inspection. At this time, Mr. Kennett also requested a copy of the SPCC Information Pack be sent to him.

At approximately 0940 hours, while Mr. Huval went to get a car for the site reconnaissance, START Kirchner called U.S. EPA attorney Rodger Field to inform him that access was granted to the inspector. At 0955 START Kirchner and Mr. Huval began the site tour. The site reconnaissance consisted of an inspection of the containment areas and appurtenances of tanks 16, 17, 18, 35, 36, 45, 51, 52, 55, 56, 59 and 801; 1B outfall and emergency pump with hard piping to tank 45; small container storage; light and heavy oil loading racks; and transformer locations.

Attachment A contains the photodocumentation of the site inspection. The site consisted of the northwest tank farm areas (800 series tanks), the 40-, 60-, and 70-series tank farm area, and the southwest property tank farm (50 series tanks). Tank 801 was the first tank area inspected. The area beneath the pump and oil sampling port was heavily stained with oil (photo 1). Mr. Huval stated Clark Oil had a dedicated team whose job was to pump out oil catch pans throughout the facility. During the March 1997 inspection, a leak coming from a flange in piping associated with tank 801 was observed. This leak had been corrected, but the oil-stained soil remained (photo 2).

The piping which ran from outfall 1B to tank 45 was inspected next (photos 3 and 4). Mr.

Huval stated that water from tank 45 was then pumped to the front end of the facility's oil/water separator. Photos 5, 6, and 7 depict the containment areas for tanks 55 and 56. These two tanks are located adjacent to the Cal-Sag Channel. During the March 1997 inspection, the containment area for tank 55 had water from outfall 1B pumped into it. Although the water is now piped to tank 45, a depression in the containment area for tank 55 still exists. The containment floor for tank 55 had areas which were oil stained. The containment floor of tank 56 was not oil stained, but did contain some debris. The containment area of tanks 51 and 59 was inspected next. Oil stains surrounded the bottom edge of the larger insulated tank in the containment area, tank 51. In addition, a trench had been dug around the bottom of the tank. Several holes were dug adjacent to and surrounding the perimeter of the trench (photo 8). Mr. Huval did not know why the trench or holes had been dug.

No changes had been made to the drum storage area next to the Cal-Sag Channel since the March 1997 inspection (photos 9, 10 and 11). Although the warehouse storing the full drums has cement curbing around the majority of the perimeter, there is no curbing at the entrance way. There is a slight slope away from the Cal-Sag Channel; however, this slope would not prevent a leaking drum near the entrance way of the warehouse from being contained within the cement curbed area. Also, several empty drums are stored outside the southern end of the warehouse with no secondary containment measures.

Neither the light oil or heavy oil truck racks displayed warning signs for the drivers (photos 13 and 17). The only visible warning signs were displayed at an area next to the liquid propane gas (LPG) loading area (photos 12 and 14). Mr. Huval was not sure as to what products were unloaded at the station next to the LPG loading area. The facility does display signs warning drivers of overhead piping (photo 15). These signs are located on 131<sup>st</sup> Street.

During the March 1997 inspection, two skid tanks were located next to a shed between junction box 38 and the heavy oil loading rack. These tanks were located in such a way that they did not have proper secondary containment. These skid tanks were not present at the time of the inspection (photo 16). Mr. Huval did not know when the tanks had been removed from the area.

After the drum storage and loading racks were inspected, the tour moved to the main refinery tank farm. During the March 1997 inspection, tank 35 contained some debris and a significant amount of water with oil floating on top of the water. During the February 1998 inspection, the tank 35 containment area still contained water and floating oil, although in less volume than in March 1997 (photos 18 and 19). Even though the volume was less, the tank was still encircled by water. The containment area for tank 17 had a small volume of water in it, but was heavily oil stained (photo 20). At the time of the inspection, Clark Oil Refinery had a subcontractor on site performing cleanup work in the containment area for tank 36 (photo 21). Mr. Huval did not know the nature of the spill in the tank 36 containment area.

At approximately 1145 hours, START Kirchner and Mr. Huval met with Gil VanVossen, an employee with Clark Oil, for a tour of the transformer areas located outside of the process areas. START Kirchner focused on those transformers outside of the process area because all drainage from the process areas flows to the oil water treatment plant for processing. Mr. VanVossen accompanied the team to transformers 7 and 8, which are located on the far east end of the refinery. These transformers drain to an area which is ultimately pumped into tank 59. Transformers 9 and 10 are located at the corner of 131<sup>st</sup> Street and Kedzie Avenue behind the old office building (photos 23 and 24). The drainage pattern in this area is toward 131<sup>st</sup> Street. A storm sewer opening is located on 131<sup>st</sup> Street in front of the eastern end of the old office building. Substation 11 is located adjacent to the Cal-Sag Channel and Kedzie Avenue. Specifically, the substation consists of three 250 kilovolt amp transformers located behind a storage building southeast of the drum storage warehouse (photos 25 and 26). The three transformers contain 245 gallons of oil each. There is no containment area surrounding these transformers. A spill from any of the transformers would drain to the Cal-Sag

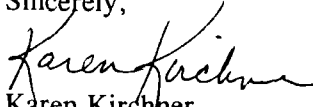
Channel.

While still in this area, START Kirchner and Mr. Huval returned to tank 59. START Kirchner noted that the piping to tank 59 was supported by cinder blocks (photo 27). The rusted can in the picture was not supporting the pipe and was merely located under the pipe. The insulation around the pipe was worn away where the pipe came in contact with the cinder block.

START Kirchner and Mr. Huval returned to the Clark Oil Refinery office and met with Mr. Kennett for a post-inspection meeting. START Kirchner explained to Mr. Kennett some of the changes that she had seen since the March 1997 inspection, such as the removal of the skid tanks, the piping of water from outfall 1B to tank 45, and the leaking flange at tank 801 which had been fixed. Also discussed were deficiencies that had not been corrected since the March 1997 inspection. These deficiencies included the inadequate containment areas identified in the plan, the lack of secondary containment for the drums and transformers, the missing warning signs at the truck loading rack, and the oil and water in the containment areas. Mr. Kennett wanted to know if a notice of violation would be issued to Clark Oil Refinery. START Kirchner explained to Mr. Kennett that she was a contractor and could not make any determinations in the matter of enforcement. START Kirchner went on to explain that a letter report including her findings would be submitted to U.S. EPA. Mr. Kennett also asked about receiving a copy of the report and photographs. START Kirchner explained that a Freedom of Information Request would need to be submitted to U.S. EPA, and that if he wanted more information on the matter to speak with Dr. Carr. At approximately 1230 hours, START departed Clark Oil Refinery.

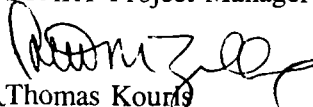
This report completes the requirements of the TDD. If you have any questions or require additional information, please contact our office at 312-578-9243.

Sincerely,



Karen Kirchner

START Project Manager



Thomas Kourts

START Program Manager

Attachment: A - Photodocumentation

cc: Barbara Carr, U.S. EPA SPCC Coordinator  
Rodger C. Field, U.S. EPA Associate Regional Counsel  
TDD file





**SITE:** Clark Oil Refinery

**DATE:** February 27, 1998

**TIME:** 10:05 **PHOTO:** 1

**LOCATION:** Blue Island, IL

**DIRECTION:** Northeast

**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Pump located at Tank 801. Oil sampling location.



**SITE:** Clark Oil Refinery

**DATE:** February 27, 1998

**TIME:** 10:10 **PHOTO:** 2

**LOCATION:** Blue Island, IL

**DIRECTION:** Northeast

**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Piping at Tank 801 which was leaking in March 1997. The piping is no longer leaking because flange was fixed, however, note oil-stained ground. The area shown in this photo is the same area represented in photo 1 from the March 1997 inspection.



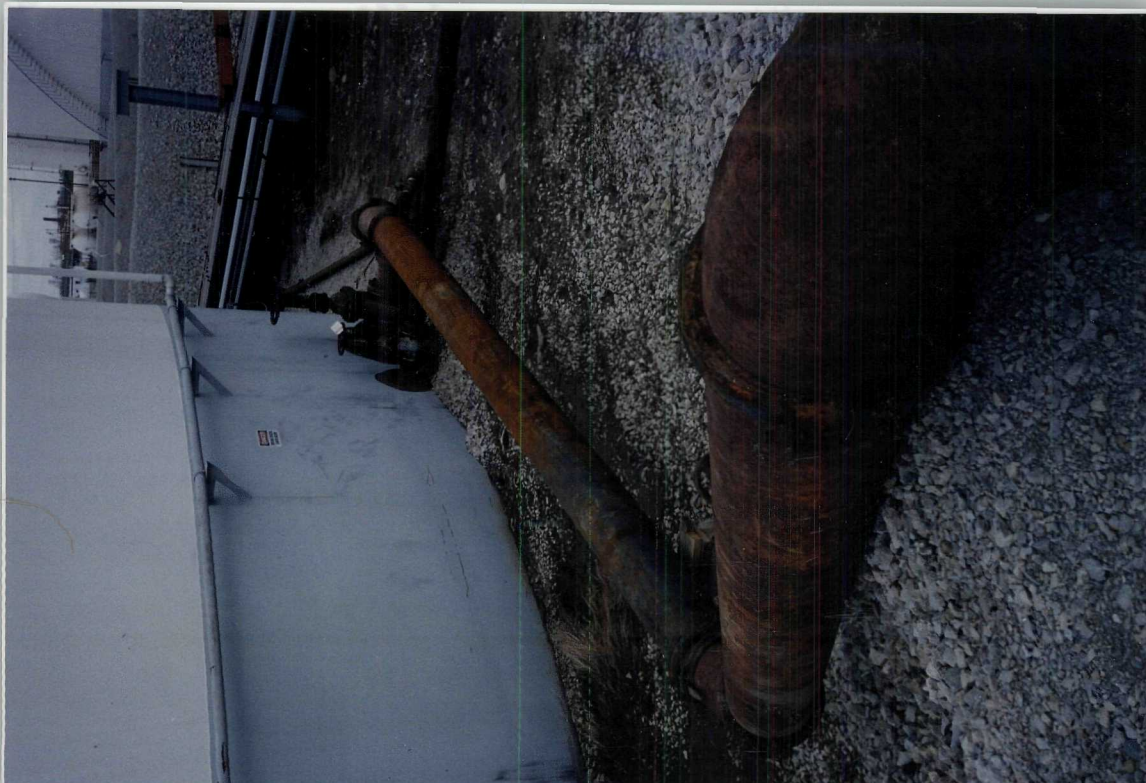


**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL

**DATE:** February 27, 1998  
**DIRECTION:** South

**TIME:** 10:20 **PHOTO:** 3  
**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Water pipe that runs from 6 foot sewer junction box at the Cal-Sag Channel to Tank 45.



**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL

**DATE:** February 27, 1998  
**DIRECTION:** Northeast

**TIME:** 10:20 **PHOTO:** 4  
**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Water pipe from 6 foot sewer junction box into Tank 45. The pipe runs from Tank 45 to front end of API.





**SITE:** Clark Oil Refinery

**DATE:** February 27, 1998

**TIME:** 10:25 **PHOTO:** 5

**LOCATION:** Blue Island, IL

**DIRECTION:** West

**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Water is no longer pumped from 6 foot sewer junction box into containment area for Tank 55. Water is now piped to Tank 45.



**SITE:** Clark Oil Refinery

**DATE:** February 27, 1998

**TIME:** 10:40 **PHOTO:** 6

**LOCATION:** Blue Island, IL

**DIRECTION:** Northeast

**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Depression area around Tank 55 where water was pumped. Ground stained with product. The area shown in this photo is the same area represented in photo 2 from the March 1997 inspection.





**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 10:45      **PHOTO:** 7  
**LOCATION:** Blue Island, IL      **DIRECTION:** Southeast      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Tank 56 containment area. Note debris and standing water in containment. There was no visible staining on floor of containment.



**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 10:50      **PHOTO:** 8  
**LOCATION:** Blue Island, IL      **DIRECTION:** North      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Insulated Tank 51 located in same containment area as Tank 59. Note staining on ground and around bottom of tank. Same containment area as photo 8 from March 1997 inspection.





**SITE:** Clark Oil Refinery

**DATE:** February 27, 1998

**TIME:** 10:50 **PHOTO:** 9

**LOCATION:** Blue Island, IL

**DIRECTION:** South

**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Empty drum storage area and proximity of Cal-Sag Channel.



**SITE:** Clark Oil Refinery

**DATE:** February 27, 1998

**TIME:** 10:55 **PHOTO:** 10

**LOCATION:** Blue Island, IL

**DIRECTION:** Northeast

**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Inside drum warehouse. Warehouse has cement curbing, except at warehouse entrance.





**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 10:55      **PHOTO:** 11  
**LOCATION:** Blue Island, IL      **DIRECTION:** Southeast      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Inside drum warehouse looking towards the Cal-Sag Channel. Warehouse has cement curbing, except along the doorway.



**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 11:10      **PHOTO:** 12  
**LOCATION:** Blue Island, IL      **DIRECTION:** South      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Visible unloading sign located on dike wall at LPG unloading area near light oil rack.





**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** Absence of warning signs at light oil rack. SPCC Plan states that signs are present.

**DATE:** February 27, 1998  
**DIRECTION:** East

**TIME:** 11:10 **PHOTO:** 13  
**PHOTOGRAPHER:** Kirchner



**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** Visible unloading sign west of light oil rack near LPG loading area.

**DATE:** February 27, 1998  
**DIRECTION:** South

**TIME:** 11:10 **PHOTO:** 14  
**PHOTOGRAPHER:** Kirchner





**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 11:10      **PHOTO:** 15  
**LOCATION:** Blue Island, IL      **DIRECTION:** East      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Sign, warning of overhead pipeline, located near the intersection of 131<sup>st</sup> Street and Kedzie Avenue.



**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 11:20      **PHOTO:** 16  
**LOCATION:** Blue Island, IL      **DIRECTION:** West      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Skid tanks which were located next to shed during March 1997 inspection have been removed. The area shown in this photo is the same area represented in the photo taken at 16:17 hours from the March 1997 inspection.

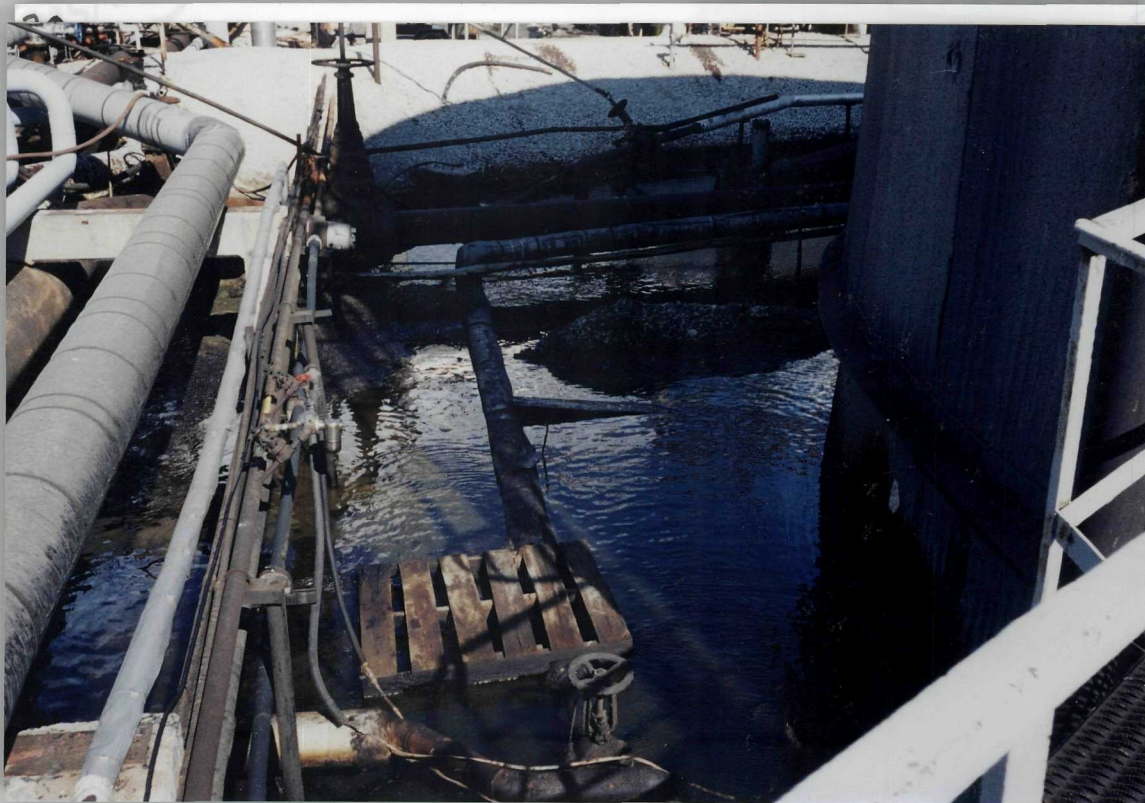




**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** No warning signs posted in heavy oil rack.

**DATE:** February 27, 1998  
**DIRECTION:** Southeast

**TIME:** 11:25 **PHOTO:** 17  
**PHOTOGRAPHER:** Kirchner



**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL

**DATE:** February 27, 1998  
**DIRECTION:** North

**TIME:** 11:30 **PHOTO:** 18  
**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Oily water accumulated in containment area of Tank 35. The area shown in this photo is the same area represented in photo 5 from the March 1997 inspection.





**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 11:30      **PHOTO:** 19  
**LOCATION:** Blue Island, IL      **DIRECTION:** Southeast      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Oil accumulation at Tank 35 and note level of oil staining. Same area as photo 13 from the March 1997 inspection.



**SITE:** Clark Oil Refinery      **DATE:** February 27, 1998      **TIME:** 11:35      **PHOTO:** 20  
**LOCATION:** Blue Island, IL      **DIRECTION:** Northwest      **PHOTOGRAPHER:** Kirchner  
**SUBJECT:** Oil-stained ground in Tank 17 containment area. The area shown in this photo is the same area represented in photo 7 from the March 1997 inspection.





**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** Cleanup work at Tank 36 containment area.

**DATE:** February 27, 1998  
**DIRECTION:** North

**TIME:** 11:40 **PHOTO:** 21  
**PHOTOGRAPHER:** Kirchner



**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** Rolloff boxes filled with petroleum-contaminated soils generated from cleanup of Tank 36 containment area.

**DATE:** February 27, 1998  
**DIRECTION:** North

**TIME:** 11:50 **PHOTO:** 22  
**PHOTOGRAPHER:** Kirchner





**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** Power transformers 9 and 10. Transformers located behind old office building. The area slopes towards 131st Street.

**DATE:** February 27, 1998  
**DIRECTION:** East

**TIME:** 11:55 **PHOTO:** 23  
**PHOTOGRAPHER:** Kirchner



**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL  
**SUBJECT:** Power transformers 9 and 10. Transformers located behind old office building. The area slopes towards 131st Street.

**DATE:** February 27, 1998  
**DIRECTION:** East

**TIME:** 11:55 **PHOTO:** 24  
**PHOTOGRAPHER:** Kirchner





**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL

**DATE:** February 27, 1998  
**DIRECTION:** Southwest

**TIME:** 11:55 **PHOTO:** 25  
**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Power transformers located near canal.



**SITE:** Clark Oil Refinery  
**LOCATION:** Blue Island, IL

**DATE:** February 27, 1998  
**DIRECTION:** West

**TIME:** 11:55 **PHOTO:** 26  
**PHOTOGRAPHER:** Kirchner

**SUBJECT:** Tank 59 tank support by cinder block, which is not located by rusty can. The area shown in this photo is the same area represented in photo 15 from the March 1997 inspection.